

ACADEMIC YEAR 2024/2025

General information	
Academic subject	MICROBIOLOGY AND IMMUNOLOGY OF AQUATIC ANIMALS
Degree course	Science of Marine Productions and Resources (L38)
Academic Year	II
European Credit Transfer and Accumulation System (ECTS)	6 (5 ECTS: lectures; 1 ECTS: practical activities)
Language	Italian
Period of teaching	II semester 3/03/2025-20/06/2025
Attendance	No

Professor/ Lecturer	
Name and Surname	Marialaura Corrente – Alessandra Cavalli
E-mail	marialaura.corrente@uniba.it ; alessandra.cavalli@uniba.it
Telephone	+390805713590 (M. Corrente) +390805713508 (A. Cavalli)
Department and address	Taranto, Ex II Facoltà di Scienze MM.FF.NN, Via Alcide de Gasperi, (Quartiere Paolo VI) - 74123 Taranto
Virtual headquarters	Microsoft Teams- Team Microbiologia e immunologia degli animali acquatici Code gxtvxhg
Tutoring (time and day)	Wednesday: 11.00-13.00. Thursday 15.00-17.00. Appointment by mail.

Syllabus	
Learning Objectives	Thee course provides the fundamental elements regarding: -the knowledge of bacteria and viruses affecting aquatic animals; -the interrelationships of microorganisms with the host and the aquatic environment; - - the analysis of the response and defense mechanisms of the immune system, with an approach to the comparative immunology; -the use of the exact terminology.
Course prerequisites	The student must have acquired knowledge and skills relating to the anatomical districts, the biochemical and the physiological mechanisms that regulate cellular functions.

	<p>Fish, Sixth Edition, Springer</p> <ul style="list-style-type: none"> Infectious Disease in Aquaculture: Prevention and Control di Brian Austin e Dawn A. Austin - (Woodhead Publishing Series in Food Science Technology and Nutrition) <p>Notes taken during lectures. Slides projected during the lectures (available on google drive platform or team classroom). Handbooks of special bacteriology by Professor Corrente and special virology by Professor Tempesta (available on google drive or Teams classroom)</p>
Additional materials	Additional teaching material is provided by the teachers at the beginning of the course and is available on the TEAMS platform

Work schedule			
Hours			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Individual study
150	40	10	100
ECTS			
6	5	1	

Teaching strategy	
	<p>The course consists of theoretical lectures and practical works in the laboratory. The theoretical part of the course takes place in classrooms equipped with multimedia tools such as pc, projector, internet connection, using power point slides and video. During the course, self-assessment questionnaires will be administered to verify learning. In the same way, innovative and interactive methods are used such as group quizzes (Kahoot!) to develop students' critical and deductive sense and specific and transversal competencies. The practical trainings will be performed in the lab and field activities are planned.</p>

Expected learning outcomes	
Knowledge and understanding ability	<p>At the end of the course the student must know:</p> <ul style="list-style-type: none"> the basic principles of bacteriology, virology, and immunology essential to the study and understanding of infectious diseases and prophylaxis plans; The diagnostic laboratory techniques and good laboratory practices and sampling methods
Applied knowledge and understanding ability	<p>At the end of the course the student must acquire:</p> <ul style="list-style-type: none"> the ability to relate the characteristics of microorganisms with the capabilities of interrelation with the external and host environment and knowing how to apply them in the diagnostic and prophylactic approach to infectious diseases; the ability to collect, store and process biological samples and send them appropriately to the laboratory; the ability to perform the common serological and microbiological diagnostic techniques, know how to apply them in an appropriate way, know how to interpret and discuss the results with interlocutors, even non-specialists; the ability to apply biosecurity principles correctly.

<p>Soft skills</p>	<p>At the end of the course, the student must be able to:</p> <ul style="list-style-type: none"> ○ acquire the fundamental and essential bases of microbiology that can allow him/her to face and solve problems of an infectious nature both from a diagnostic and prophylactic point of view; ○ know the principles of disease prevention and the promotion of health and welfare; ○ think and discuss; ○ work both independently and as part of a team; ○ solve problems by applying knowledge; ○ obtain adequate, diverse and updated information by various means such as literature and Internet information, and critically analyse it. <p>Communicating knowledge and understanding</p> <p>At the end of the course, the student must be able to:</p> <ul style="list-style-type: none"> ○ communicate with exact terminology, with mastery of language and matter, on topics related to course ; ○ make a clear, concise, and consistent public presentation; ○ He/she must be able of working in team. <p>Ability to learn independently</p> <ul style="list-style-type: none"> ○ Ability to learn and improve the knowledge of the topics of the course.
---------------------------	---

<p>Assessment and feedback</p>	
<p>Methods of assessment</p>	<p>The exam takes place through an oral test on program topics. During the course, written test/s can be planned.</p>
<p>Evaluation criteria</p>	<p>During the assessment procedure, students must demonstrate:</p> <ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ knowledge of the mechanisms that regulate the microbial world and the immune response; insight into with the concepts and methodologies used in diagnostic techniques. ○ <i>Applying knowledge and understanding</i> ○ the skills acquired during the practical exercises and the knowledge of the principles of microbiology; ○ the ability to choose and apply the best laboratory techniques for the isolation and cultivation of microorganisms of veterinary interest; ○ the knowledge of the basic concepts of vaccinology. • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ to be able to think transversally by correlating notions acquired in previous and preparatory courses; ○ to have analytical skills and a critical sense with respect to the topics covered. • <i>Communication skills</i> <ul style="list-style-type: none"> ○ Particular attention will be paid to the quality of the presentation of the topics, the use of scientific terminology and the mastery of language. • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ The student must demonstrate that he has assimilated and understood the fundamental concepts of microbiology in order to use



	them for subsequent studies.
Criteria for assessment and attribution of the final mark	The final assessment, expressed in thirties, will be passed with marks equal or greater than 18 and will be made based on the correctness of the answer, the communication skills, the clarity of the presentation, the disciplinary competence.
Additional information	