

General Information	<b>BACELOR DEGREE IN BIOTECHONOLOGIES</b>
Title of the subject	Infectious agents
Degree Course (class)	INDUSTRIAL AND AGRI-FOOD BIOTECHONOLOGIES
ECTS credits	4
Compulsory attendance	YES
Language	ENGLISH
Academic year	2020-21

Subject Teacher		
Name and Surname	TIZIANA MASCIA	
email address	tiziana.mascia@uniba.it	
Place and time of reception	Teacher's office, second floor of the Faculty of Agriculture, Campus E. Quagliariello, Department of Soil, Plant and Food Sciences - Section Plant pathology TUESDAY, WEDNESDAY, THURSDAY 10: 00-13: 00	
ECTS credits details		
	Discipline sector (SSD)	Area
	AGRI2	---

Study plan schedule	Year of study plan		Semester	
	II		II	
Time management				
	Lessons	Laboratory	Exercises	Total
CFU	3	1		4
Total hours	75	25		100
In-class study hours	24	12		36
Out-of-class study hours	51	13		64

Syllabus	
Prerequisites / Requirements	
<b>Expected learning outcomes (according to Dublin descriptors)</b>	
Knowledge and understanding	Knowledge of general, inorganic and organic chemistry, genetics, molecular biology and biochemistry
Applying knowledge	The student will acquire: <ul style="list-style-type: none"> <li>- basic knowledge of viral infectious agents, vertebrate and plant disease agents and their biological and epidemiological characteristics</li> <li>- basic knowledge related to the processes of organization, replication and expression of the viral genome</li> <li>- key concepts of current legislation on vaccination</li> </ul>
Making informed judgments and choices	The student must reach the acquisition of :

	<ul style="list-style-type: none"> <li>- basic knowledge regarding the identification of viral infectious agents of plant and vertebrate disease</li> <li>- innovative techniques of biological, serological and molecular diagnosis in virology</li> </ul>
Communicating knowledge	The student will acquire the basic knowledge to critically interpret the laboratory data in terms of its scientific value, highlighting its strengths and weaknesses
Capacities to continue learning	<p>The student will possess adequate knowledge and skills to:</p> <ul style="list-style-type: none"> <li>- oral communication of the biological, epidemiological and biomolecular characteristics of the main infectious agents of vertebrate and plant diseases and of the possibilities offered by new biotechnological techniques for their molecular characterization.</li> <li>- speak with specialists and non-specialists on current problems inherent to emerging viruses for which it is possible to foresee solutions through biotechnological methods and approaches.</li> </ul> <p>The student will have developed learning skills concerning: - the correct reading and interpretation of the scientific literature available in English - additional skills through consultation of bibliographic material in paper and electronic form</p>
<b>Study Program</b>	
Content	<p><b>PART I   CFU of lectures 0.5 CFU of exercises</b></p> <ol style="list-style-type: none"> <li>1. Introduction, generalities and systematic classification of viruses</li> <li>2. Architecture and structure of virions with exercise</li> <li>3. Viral genomes</li> </ol> <p><b>PART II   CFU of lectures 0.5 CFU of exercises</b></p> <ol style="list-style-type: none"> <li>1. Viruses genome replication strategies</li> <li>2. Strategies for the expression of the genetic information of viruses</li> <li>3. The infectious cycle: phases of the viral replication cycle Viral infections in plants and vertebrates with exercise</li> </ol> <p><b>PART III   CFU of lectures</b></p> <ol style="list-style-type: none"> <li>1. The host's defense responses to viral infections</li> <li>2. Pathogenesis</li> <li>3. Gene silencing of RNA</li> <li>4. New and emerging viruses</li> <li>5. Subviral agents: RNA DI, satellites, viroids, Prions</li> </ol>
Bibliography and textbooks	<p>NOTES and SLIDES OF THE LESSONS DISTRIBUTED AT THE END OF THE LESSON</p> <ul style="list-style-type: none"> <li>- Alan J. Cann – 2010. ELEMENTI DI VIROLOGIA MOLECOLARE ISBN 88-408-1363-2</li> <li>- L. Giunchedi, D. Gallitelli, M. Conti G.P. Martelli – 2007. ELEMENTI DI VIROLOGIA VEGETALE ISBN 978-88-299-1838-6</li> </ul>
Notes to textbooks	
Teaching methods	Slides, videos, individual exercises
Assessment methods	ORAL EXAM

(oral, written, ongoing assessment)	
Evaluation criteria (describe criteria for each of the above expected outcomes)	The verification of the learning outcomes regarding the individual indicators will take place during the exercises and during the oral interview for the final exam. In particular, the student is expected to correctly understand the question posed and to provide in a concise manner but with adequate arguments the details necessary to formulate the correct answer, also by means of links with similar topics covered in the teaching program.
Further information	