SCUOLA DI SCIENZE AGRARIE, FORESTALI, ALIMENTARI ED AMBIENTALI

COURSE: **Plant Pathology** (AGR0138)	
ACADEMIC YEAR: 2018-2019	
TYPE OF EDUCATIONAL ACTIVITY: Characteristic	
TEACHER: Ippolito Camele	
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Language: Italian	

ECTS 9 CFU (8 of lessons and 1 of laboratory/practice)	n. of hours: 80. Lessons 64 and 16 laboratory/practice.	Campus: Potenza School: SAFE Program:	Semester: I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Students will learn the basic knowledge of general and special Plant pathology and will be able to diagnose the most important plant diseases caused by fungi, bacteria, viruses, viroids and phytoplasmas and give the farmers useful directions to control plant diseases ensuring environmental and human healthy.

*o **knowledge and understanding**: the student should demonstrate the knowledge of the main groups of phytopathogens and the molecular and classical diagnostic techniques for their correct identification and to understand and address the related issues to the proper management of the means of fighting within defence strategies that are respectful to the environment and human health.*

*o **Capacity of applying knowledge and understanding**: the student should be able to analyze the factors that determine some of the most important diseases and to design the most appropriate control strategies always respecting human health and the environment by applying the knowledge acquired during the course. The student should also demonstrate how to apply the acquired knowledge in different field of plant pathology such as statistics, bioinformatics, plant biology and biochemistry.*

*o **Making judgements**: the student should be able to know how to independently evaluate and choose the most suitable tools for setting up the correct strategies. The student must be able to adapt and / or modify by his own autonomy the strategies of struggle in respect to the multiple and not always standardisable different endogenous and exogenous factors that determine the disease development.*

*o **Communication skills**: the student should have the ability to explain in a simple way also to people who are not expert in the field the risks to human health and the environment in associated with the inappropriate use of agrochemicals. The student should be able also to present a written relation or an oral presentation in the field of plant pathology using the correct scientific language.*

*o **Learning skill**: the student should be able, by using the acquired knowledge from the course, to continuously update and enrich his / her knowledge through consultation of texts and / or publications, computer tools, participation in courses and seminars in the field of plant pathology.*

PRE-REQUIREMENTS

Students wishing to access this teaching is advised to have a good knowledge in the plant physiology and biochemistry.

SYLLABUS

In the general part, after brief remarks on the history of Plant Pathology, in particular, the following topics will be addressed: general and subdivision of the course -The economic importance of plant diseases -The concept of disease and injury - Study of a plant disease: symptoms, etiology, Koch's postulates – The general characteristics of fungi, bacteria, viruses, viroids and phytoplasma – Pathogenicity and virulence - Susceptibility and resistance - Degree of parasitism - Phases of the infectious process - Plant defense mechanisms - Principles of struggle against plant pathogens - Biological control concepts, guided and integrated - Diagnostic techniques in Plant Pathology. Mycotoxins. In the second part of the course the main diseases of parasitic nature of cultivated plants and major

postharvest disease of plant products will be treated. Essential concepts of bioinformatics will be addressed.
During the practical lessons the students will approach both classical and molecular diagnostic techniques for plant pathogens detection.

TEACHING METHODS

Theoretical lessons, Laboratory tutorials. The topics of the course will be treated with the help of Power Point presentations.

EVALUATION METHODS

Oral examination. Generally the student examined three questions will be posed, two on general pathology topics and one on special pathology. The answers to the questions will provide the inspiration for requests for clarification and / or further details and will allow to probe the student of much of the program done.
The oral test will last approximately thirty minutes. written tests will be possible. In this case the final evaluation of the oral test will be the average of the votes obtained in the written tests and the vote obtained in the oral test.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Elementi di Patologia Vegetale, Piccin Editore, di Giuseppe Belli e Collaboratori;

Fondamenti di Patologia Vegetale, Ed. Patron, di A. Matta;

Fondamenti di Patologia Vegetale, Ed. Patron, di A. Matta; Patologia Postraccolta dei Prodotti Vegetali, di V. De Cicco et al., Piccin Editore;

For watching additional photographic material from the one shown in class or for further information will be provided internet sites addresses.

Lesson notes.

INTERACTION WITH STUDENTS

At the beginning of the course, after describing the objectives, program and methods of verification, the teacher collects the list of students accompanied by name and email.
The teacher receives from Monday to Friday from 9.00 to 11.00 and he is available at all times for a contact with the students, through its e-mail or telephone.

EXAMINATION SESSIONS (FORECAST)[1]

10-05-2019; 14-06-2019; 05-07-2019; 05-09-2019; 11-10-2019; 08-11-2019; 06-12-2019; 10-01-2020; 07-02-2020; 06-03-2020; 10-04-2020.
Any eventual changes will be made known through online exam booking services.

EVALUATION COMMITTEE

Prof. Ippolito Camele (president), Dr. Maria Nuzzaci (member), Prof. Vincenzo Candido (replacement member)

SEMINARS BY EXTERNAL EXPERTS YES X NO

FURTHER INFORMATION

[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.