



UNIVERSITÀ DEGLI STUDI DELLA BASILICATA

SAFE - SCUOLA DI SCIENZE AGRARIE, FORESTALI, ALIMENTARI ED AMBIENTALI

ACADEMIC YEAR: 2018-2019

COURSE/MODULE:

INTEGRATED DEFENSE/PLANT APPLIED PATHOLOGY

TYPE OF EDUCATIONAL ACTIVITY:

CHARACTERIZING

TEACHER:

Prof. Aniello Crescenzi

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website:

phone: 0971205700

Mobile phone:

Teaching language: Italian

ECTS: 6 (5 lessons and 1 di tutorial / practice)	N. hours: 56 (40 lessons and 16 tutorial / practice)	Campus: Potenza School: SAFE CdS: Scienze e Tecnologie Agrarie (LM69)	Semester: I and II (annual course)
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EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

- **Knowledge and understanding:** Biology, characteristics of the main plant pathogens (viroids, viruses, phytoplasmas, bacteria, fungi, parasitic plants) of economic interest for agricultural crops, eco-epidemiological cycles of pathogens, damage they cause, detection, diagnosis and prevention methods and integrated control in a modern agricultural system, respecting the environment and the health of agricultural products.
- **Knowledge applying and understanding:** Ability to use basic laboratory techniques (isolation of plant pathogens, optical microscopy, serological and molecular diagnosis methods). Ability to draw up and coordinate an integrated defense plan both at farm and territorial / district level.
- **Autonomy of judgment:** The student must be able to evaluate and select independently the most appropriate tools for drawing up, coordinating and testing an integrated defense and phytopathological monitoring plan. The student must be able to adapt and / or modify the defense strategies in relation to the different agro-systems in which he is operating.
- **Communicative skills:** The student must have the ability to coordinate technical meetings and illustrate also to incompetent people integrated defense plans linked to the potential risks to human health and the environment. The student must be able to present a written work or oral presentation in the field of plant pathology using the correct scientific language.
- **Learning skills:** The students must be able to update and enrich their knowledge through the consultation of treaties and / or scientific publications, or through the participation to specialized courses and seminars, using the knowledge acquired during the course attendance.

PRE-REQUIREMENTS

It is necessary to have acquired the basic knowledge of plant pathology, botany, agronomy, crops, biochemistry and biology.

SYLLABUS

Part 1 (12 hours)

Advanced knowledge of viroids, viruses, phytoplasma, bacteria, plant pathogenic fungi and parasitic plants, transmission mechanisms, methods of diagnosis and main measures of prevention and integrated control of agricultural plant diseases.

Part 2 (22 hours)

Context analysis and planning of integrated defense systems of the main woody plants agro-systems.

Part 3 (22 hours)

Context analysis and planning of integrated defense systems of the main herbaceous plants agro-systems.

TEACHING METHODS

The course includes 56 hours of didactics between lessons and practice. In particular, 40 hours of lectures and 16



hours of practice (guidance for the preparation of the plant pathology herbarium, laboratory activities, field trips, visits to plant disease diagnosis centers, test facilities and participation in conferences and specialized meetings).

EVALUATION METHODS

The aim of the examination is to test the level of achievement of the previously mentioned educational goals. The course is annual and consists of two six-month modules. During the break between the first and the second module there is a written mid-term exam (with open and closed questions) on the topics covered in the first module in order to assess the acquired knowledge and understanding of the basic arguments. This mid-term test corresponds to 40% of the overall evaluation of teaching. In addition, during the annual lessons for students, it will be required to prepare a couple of scientific reports on specific issues related to the subject matter to evaluate the communication and synthesis capabilities for in sector operators, or for a more general audience.

At the end of the course a final oral test will assess the ability to link and compare the various aspects addressed. The preparation of a herbal plant pathology from the student is an integral part of the final exam: the herbarium will collect no less than thirty plant disease samples of the leading agro-treated.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Crescenzi e G. D'Agrosa. *Difesa integrata del pomodoro*. Il Sole 24 Ore Edagricole;
 - Crescenzi et. Al. *Le avversità delle Brassicacee*. AssoSementi;
 - G. Belli. *Elementi di Patologia vegetale*. Piccin editore;
 - L. Giunchedi, D. Gallitelli, M. Conti, G.P. Martelli. *Elementi di Virologia Vegetale*. Piccin editore;
 - L. Giunchedi. *Malattie da virus, viroidi e fitoplasmi degli alberi da frutto*. Edagricole;
 - M. Conti, Gallitelli D., Lisa V., Lovisolo O., Martelli G.P. Ragozzino A., Rana G.L. e Vovlas. *I principali virus delle piante ortive*. Bayer;
 - N. Agrios. *Plant Pathology*. Academic Press;
 - R.T.V. Fox. *Principles of diagnostic techniques in plant pathology*. CAB International;
 - G. Lorenzini. *Principi di fitoiatria*. Edagricole;
 - Dispensers and articles prepared by the Teacher
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INTERACTION WITH STUDENTS

At the beginning of the course, after describing the objectives, program and test procedures, the teacher collects the list of students attending the course with their full name, serial number and email. The mailing list thus generated will allow the teacher to quickly notify students with information, news, educational material and periodic self-test. Educational materials will be distributed and commented during class or by email.

Visiting hours: every day from 8,30 to 9,30 a.m., in the teacher's office, room 3A310. The previous office hours scheme may not obviously predict setbacks or meeting suddenly convened. Moreover, every student can ask to be received even in times not included in the previous scheme with a mail addressed to aniello.crescenzi@unibas.it or through the phone number +39-0971205700. The same addresses can be used to contact the teacher and get brief information without going to the studio personally.

EXAMINATION COMMITTEE:

Prof. Aniello Crescenzi (President)
Prof. Palo Fanti (component)
Prof.ssa Donatella Battaglia (substitute)
Prof. Ippolito Camele (component)

FORECAST EXAMINATION SESSIONS:

Calendar available online at <https://unibas.esse3.cineca.it/Home.do>

WARNING: Consult the entry for Integrated Defense Exam



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SEMINARS BY EXTERNAL EXPERTS: YES

FURTHER INFORMATION
