SCUOLA DI SCIENZE AGRARIE, FORESTALI, ALIMENTARI ED AMBIENTALI

COURSE: Post-harvest pathology			
ACADEMIC YEAR: 2018/2019			
TYPE OF EDUCATIONAL ACTIVITY: Characteristic			
TEACHER: Prof. Maria Nuzzaci			
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Language: Italian			
ECTS: 7 (6 of lessons and 1 of laboratory/practice)	n. of hours:64 (48 of lessons and 16 of labs/practice)	Campus: Potenza School: SAFE Program: Food Technology	Semester: II

EDUCATIONAL GOALS

The aim of the course is to provide basic knowledge for the study and identification of disorders and diseases induced by biotic and abiotic agents on foodstuffs for fresh consumption, processing and storage, as well as to perform and monitor the effectiveness of strategies, means and methods for diseases control based on safeguard of quality.

EXPECTED LEARNING OUTCOMES

At the end of the course, the students will be able to develop and implement post-harvest disease strategies, to work in laboratories for isolation and identification of micro-organisms of interest for the products and foodstuffs plants and continuation of the studies on postharvest diseases

PRE-REQUIREMENTS

Students wishing to access this teaching are advised to have a good grounding in the foundations of mathematics, physics, general and organic chemistry as well as elements of plant biology.

SYLLABUS

CFU-1 (8h, lectures). Introduction to plant pathology; losses and importance of the diseases; concept and classification of diseases; symptoms and effects of the diseases on plant morphology and physiology; host-parasite relationships; epidemiology.

CFU-2 (8h, lectures). Factors (environmental, chemical, physiological, biotic and abiotic stress) that cause plant disease and post-harvest losses.

CFU-3 (8h, lectures). Control of pre- and post-harvest disease of fruit and vegetables by chemical, physical and biological means. Disinfestation of facilities.

CFU-4 (8h, lectures). Basic information on disease control of products in the near-harvest and post-harvest. Alternative means and methods for diseases control based on safeguard of quality.

CFU-5 (8h, lectures). Fungi involved in human diseases. Mycotoxin-producing fungi (species of *Aspergillus, Penicilium, Fusarium, Alternaria*). Main mycotoxins (aflatoxins, ochratoxin, zearalenone, T-2 toxin, fumonisin, patulin). Diagnosis.

CFU-6 (8h, lectures). Main post-harvest diseases of fruit and vegetables and their control on citrus, stone fruit, pome fruit, grapes and vegetables by: *rhizopus, fusarium, botrytis, penicilium*..

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Practical activity

CFU-7 (16 h laboratory). Laboratory experiments for the isolation, identification of plant pathogenic fungi and bacteria. Diagnosis by serological techniques.

TEACHING METHODS

Theoretical lessons. Laboratory tutorials. The topics of the course will be treated with the help of Power Point presentations both for lectures and for the laboratory exercises.
Laboratory exercises using pure fungal and bacterial cultures and diseased horticultural and fruit products to teach the students to diagnose the main diseases.

EVALUATION METHODS

Verifying the learning of teaching is to find the level of achievement of the previously mentioned educational goals and is through an oral examination.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Fondamenti di Patologia Vegetale, Ed. Patron, di A. Matta;
- Patologia Postraccolta dei Prodotti Vegetali, di De Cicco et al., Piccin Editore
- Plant Pathology, IV Edizione, di Agrios George N., Academic Press.
- Schede Fitopatologiche di I. Ponti e F. Laffi, Ed agricole.
- Süss L., Locatelli D.P., I parassiti delle derrate. Calderini Edagricole, Bologna, 2001.
- Trematerra P., Gentile P., Gli animali infestanti in molini e pastifici. Chiriotti Editori, 2008.
- Snowdon A.L. A colour atlas of post-harvest diseases & disorders of fruit & vegetables. Vol. 1 e 2, Wolfe Scientific ed., London, 1990.
- R. Barkai-Golan (2001) "Postharvest Diseases of Fruits and Vegetables: development and control". Elsevier, Londra.
- http://www.extension.umn.edu/yardandgarden/diagnostics/

Lecturer's note of the course and PDF files, reprints, ect.

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 generally on Monday and Thursday from 9.00 to 11.00 in the teacher's study (SAFE 4th floor, Viale Dell'Ateneo Lucano, Potenza) and she is available at all times for a contact with the students, through its e-mail or telephone.

EXAMINATION SESSIONS (FORECAST)

09/05/2019, 13/06/2019, 11/07/2019, 17/09/2019, 17/10/2019, 14/11/2019, 12/12/2019, 14/01/2020, 13/02/2020, 12/03/2020, 14/04/2020

SEMINARS BY EXTERNAL EXPERTS YESx NO

EVALUATION COMMITTEE

Prof. Maria Nuzzaci (president), Prof. Ippolito Camele (member), Prof. Giuseppina Logozzo (replacement member).