Course Unit Descriptor

Study Programme: Phytomedicine

Course Unit Title: Applied Entomology

Course Unit Code: 19.FTM040

Name of Lecturer(s): Prof. Aleksandra Ignjatovic-Cupina, Assoc. prof. Aleksandra Popovic, Assoc. prof. Aleksandra Konjevic

Type and Level of Studies:Master academic studies

Course Status (compulsory/elective): obligatory

Semester (winter/summer):winter

Language of instruction: engl

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 5

Prerequisites:none

Course Aims:
Training for the employment of basic entomological knowledge in applied research and practice. Acquaintance with the latest achievements in theory and practice, integrated pest management, monitoring of invasive species, national and European regulations in the field of phytosanitary laws, quarantine and quarantine insects.

Learning Outcomes:
Acquiring entomological knowledge and skills for independent professional application in finding solutions in practice and self-reliant scientific and research work; solving theoretical and practical problems related to the species identification, monitoring, and control of harmful insect species by applying the concept of integrated pest management, signaling the appearance of new invasive alien species, prevention of the appearance and spread, application of phytosanitary laws and quarantine

Syllabus:

Theory

Feeding regimes, direct and indirect damage from insects in agriculture, veterinary medicine, and public health. Identification of phytophagous and beneficial insects, diagnosis of symptoms on hosts. Plant-insect interactions: coevolution, strategies for finding and choosing hosts, plant defense mechanisms. Quarantine and invasive species of insects, ways, and possibilities of preventing the introduction, settlement, and spread in new areas. Decision support systems (prognostic models, long-term and short-term forecasts, warning systems). International, European and national regulations on quarantine and mandatory control. Phytosanitary quality of propagation material, sanitation and certification. An integral approach to controlling harmful insects based on real biological and economic needs (threshold of harmfulness). Application of preventive and direct protection measures against harmful insects in all branches of agricultural production, storage, and transport of products and processed products, veterinary medicine, and medicine. Surveillance and monitoring techniques of selected autochthonous and non-autochthonous invasive insect species. Biological control of harmful insects, definition, regulations, advantages, and disadvantages.

Practice

Individual and group interactive work. Taxonomic identification of insects, diagnostics, locating and observing symptoms of attacks and damage to plants by certain species and stages of insects during the season, i.e. during certain phenophases of host development

Required Reading: Kogan M., Jepson P.(2007): Perspectives in Ecological Theory and Integrated Pest Management. Cambridge University Press, UK. 570 pp.

Roques A., Kenis M., Lees D., Lopez-Vaamonde C., Rabitsch W., Rasplus JY., Roy D.B.(2010): Alien terrestrial arthropods of Europe. BioRisk 4(1) (Special Issue). Pensoft, Sofia, Moscow. 552 pp.

Rechcigl J. E., Rechcigl N. A. (2000): Insect pest management: techniques for environmental protection. Lewis Publishers, an imprint of CRC Press LLC, 392 pp

Weekly Contact Hours:	**Lectures: 30**	**Practical work:30**
Teaching Methods: theoretical teaching: lectures using video presentations and modern didactic devices; practical classes: student individual work on the identification of symptoms and insect species using binocular magnifiers and identification keys, visual demonstrations in laboratory, interactive seminars		
Knowledge Assessment (maximum of 100 points):		

Pre-exam obligations	points	**Final exam**	points
Active class participation	10	written exam	50
Practical work	10	oral exam	
Preliminary exam(s)	15	…….	
Seminar(s)	15		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.