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| Course: | *Principles and methods in fruit breeding* |
| Course id: 3MВВ1О04 |
| Number of ECTS: 6 |
| Teacher: | Vladislav M. Ognjanov, Mirjana Ž. Ljubojević, Goran Ž. Barać |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 4 | Practical classes: 2 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None/navesti ako ima |
| 1. Educational goal

The aim of the course is to observe breeding concepts of varieties and rootstocks breeding in pome, stone, nut and berry fruit species, from the multidisciplinary aspect, as well as development of program implementation on the defined concept. |
| 1. Educational outcomes

By passing the exam in this course, student should be able to define the complexity of fruit breeding goals and their development to new varieties and rootstocks, that can be viewed through specialization and interaction of complementary scientific fields such as genetics, phytopathology, entomology, physiology, ecology, molecular biology, production, fruit quality and sensory evaluation. |
| 1. Course content

Theory lessons:Theoretical assumptions of the variety and rootstocks model in pome, stone, nut and berry fruit species. Variety and rootstock model will be defined in relation to the species and desired phenotype which is the result of the genotype development in certain environmental conditions. The definition of genetic basis of phenotypic characteristics based on the concept of trait and the concept of the gene. The choice of preselection methods enabling the most efficient and fastest selection of superior progeny. Defining the ideotype in the context of scion/rootstock interactions, in relation to the requirements of intensive fruit growing and decorative forms in a function of plant architecture and traditional gardening skills.Practical lessons:Species choice and creation of variety and rootstock model. Selection of the starting material in order to create the desired genetic variability. Inventory of genetic resources by GIS technology. The selection of method that provides genetic variability. Selection of standard varieties. Carrying out field trials. Statistical analysis of the data. Testing the model of varieties in vivo and via model simulation as the rootstock/scion interaction.Other forms of teaching: Search literature data for a seminar paper. Study research work. Preparation and defense seminar paper. |
| 1. Teaching methods

Na primer: Lectures, Practice/ Practical classes, Consultations, study, research work… (izabrati) |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam (izabrati) | Mandatory | Points |
| Lecture attendance | Yes | 10 | *Theoretical part of the exam/Oral part of the exam* | Yes | 40 |
| Test | Yes | 20 |  |
| Exercise attendance | Yes | 10 |
| Term paper | Yes | 20 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | D. Hayward, N. O. Bosemark and I. Romagosa | Plant Breeding: Principles and Prospects | London, Chapman and Hall | 1993 |
|  | Borojević Slavko | Principles and Methods of Plant Breeding | Springer – Verlag, Neitherlands | 1990 |
|  | Moore, J. and Janick, J. (Eds.) | Methods in Fruit Breeding | Purdue University Press, West Lafayette, Indiana | 1983 |
|  | Schmidt, H., Kellerhals, Markus | Progress in Temperate Fruit Breeding | Springer – Verlag, Neitherlands | 1993 |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationMASTER ACADEMIC STUDIES (*Fruit and vine growing)*  |
| Table 5.2 Course specification |