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| Course: | Plant Breeding and Seed Science in organic production |
| Course id: |
| Number of ECTS: 6 |
| Teacher: | Jan J. Boćanski, Velimir N. Mladenov |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 60 | Practical classes: 30 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None/navesti ako ima |
| 1. Educational goal

To familiarize students with the theoretical and practical knowledge in the field of Plant Breeding and Seed Science, which can be used in creating new varieties in organic production. |
| 1. Educational outcomes

After graduation, the student should acquire knowledge that will enable them to the proper selection of varieties and zoning affects the higher productivity of their farms. |
| 1. Course content

**Theory lessons**Plant Breeding as a scientific discipline: Significance and tasks. The origin of the genetic variability of plants: centers of origin of plants, introduction of plants, preservation of biodiversity. Reproduction systems for agricultural plants. The genetic bases of Plant Breeding. Methods of Plant Breeding. Molecular biology: Applications in plant breeding. Plant breeding for resistance to parasites. Methods of selection in self-pollinated plant species. Methods of selection in pollinated plant species. The genetic composition, adaptability and zoning varieties. Introduction and definition of seed production (definition of seed production, the general concepts related to seed production); Task organization and seed production; Economics and economic importance of seed production (international organizations dealing Seed programs for seed production, organization and transport of seeds in Serbia, organizations that contribute to the improvement of seed production in Serbia, the results achieved in seed production in Serbia); Legislation in seed; Cultural practices in seed production (crop rotation and rotational crops, tillage, seedbed preparation, fertilization of crops, sowing, irrigation, cropping seed crop, varietal weeding and removing the balloon, supplementary pollination, crop protection, harvesting).**Practical teaching: Exercise, Other modes of teaching, Study research work**The technique of experimenting. Heritability and genetic gain from selection. Testing of combining ability. Methods of assessment of the properties of field and vegetable crops. Adaptability varieties. Recognition of the newly varieties. The technique of hybridization and the creation of inbred lines. Field exercises: introduction and practical work in the greenhouse and in the field.The anatomy and morphology of seeds, calculate the need for certain categories of seed testing of seeds, germination testing and test weight, biochemical seed testing, quarantine weed seeds and disease, field exercises**.** |
| 1. Teaching methods

Lectures, Practice/Practical classes |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam | Mandatory | Points |
| Lecture attendance | Yes | 10 | *Theoretical part of the exam/Oral part of the exam/Written part of the exam-tasks and theory* | Yes | 25 |
| Test | Yes | 30 |  |
| Exercise attendance | Yes | 35 |
|  | No |  |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Poehlman, J. M. and D. A. Sleper | Breeding Field Crops. 4th edition. | Iowa State University Press | 1994 |
|  | Copeland, L.O. and M.B McDonald | Seed Science and Technology. 4th edition. | Kluwer Academic Publishers, MA | 2001 |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationBachelor study |
| Table 5.2 Course specification |