|  |  |
| --- | --- |
| Course: | The Theory of Plant Breeding |
| Course id: |
| Number of ECTS: 6 |
| Teacher: | Jan J. Boćanski, Velimir N. Mladenov |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 45 | Practical classes: 15 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None/navesti ako ima |
| 1. Educational goal

To familiarize students with the latest developments in the field of biotechnology and new methods that can be used in seed. The case is based on theoretical assumptions. |
| 1. Educational outcomes

It allows the student to understand the current trends in seed and point out that the scientific discipline should focus its future work. |
| 1. Course content

**Theory lessons**Definition and importance of the subject. Plant Breeding and social development. Sources of genetic variation in plants. The genetic base of breeding inbred and pollinating plants. The property, genotype, phenotype. Methods of selection. The concept of creating new varieties. The choice of parents for hybridization. Number crossing combinations and sizes F2 generation. Crossing methods and their importance for success in breeding. Methods of plant breeding-genetic bases and theories. Inbreeding and heterosis utilization. Recurrent selection. Using mutation and polipoida in plant breeding. Breeding vegetative means. The chromosome engineering. Application of biotechnology in plant breeding. Selection of individual properties and genetic gain from selection. Breeding plants to individual properties. Genetic composition and adaptability of sorts. Recognition of varieties and genetic bases of seed production.**Practical teaching: Exercise, Other modes of teaching, Study research work**The exercises will follow the teaching unit, students will prepare essays from certain areas, which will present during the exercise. For the preparation of seminar papers using the latest literature sources from international journals. |
| 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 |
|  | Falconer, D.S., and Mackay, T., F., C. | Introduction to Quantitative Genetics. | The Roland Press Co., New York. | 1996 |
|  | Bernardo, R. | Breeding for quantitative traits in plants. | Stemma Press, Minnesota. | 2002 |

|  |  |  |
| --- | --- | --- |
| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Program AccreditationMASTER STUDY-Genetics, Plant Breeding and Seed Production |
| Table 5.2 Course specification |