COURSE DESCRIPTION

Course code	Volume in ECTS credits	Institution	Faculty	Department
AGR8014	7		Agronomy	

Course title in Lithuanian

Sodo ir daržo augalų selekcija ir sėklininkystė

Course title in English

Breeding and seed growing of horticultural plants

Study methods	Volume in ECTS credits
Lectures	44
Consultations	2
Exam	2
Individual work	139

Short course annotation in Lithuanian (up to 500 characters)

Kursas skirtas doktorantams Gautų žinių pagrindu studentai suvoks kryžmadulkių, savidulkių ir vegetatyviniu būdu dauginamų augalų selekcijos ir sėklininkystės ypatumus. Sugebės parinkti pradinę medžiagą selekciniam darbui, sudaryti kryžminimo schemas, įvertinti hibridinius palikuonis įvairiose selekcijos grandyse, nustatyti strategiją, sudaryti selekcines programas ir kurti naujas veisles. Žinos heterozinių hibridų, kryžmadulkių ir savidulkių augalų sėklininkystės sistemas bei veislių identifikavimo metodus, susipažins su augalų veislių teisine apsauga Lietuvoje, ES valstybėse ir pasaulyje

Short course annotation in English (up to 500 characters)

The Course is designed for PhD Students. The students will understand the peculiarities of breeding of cross-, self-pollinating and vegetative propagating plants, and know seed production system. Will be able to select the material for the breeding, to define the breeding strategy and make programs to create new varieties. Will know the systems for creating of heterozygous hybrids, methods of identification of varieties, will get acquainted with the legal protection of plant varieties in Lithuania, EU countries and the world

Relevance of the course

After the course, students will have enough knowledge and skills to analyze and address the most relevant issues of plant breeding and seed production.

Course aims

The new systematic knowledge of plant genetics and breeding that can be applied interpreting the results of agronomic and biological research

Content (topics) and methods

Lectures:
1. Historical development of plant breeding in the world and Lithuania
2. Genetic Basics of Plant Breeding
3. Physiological and morphological basics of plant breeding
4. Starting material for selection
5. Plant selection methods and their use in practical selection
6. The main directions of plant breeding
7. Organization of selection work
8. Evaluation of breeding material
9. State examination of varieties in Lithuania
10. Seed production

Methods of study: lectures, consultations, self-study using additional material. In the absence of a minimum number of doctoral students for lectures individual consultations will be provided.

Structure of cumulative score and value of its constituent parts

1. The mastery of the knowledge. 2. Ability to use the knowledge supporting multiplication techniques for different types of plants 4. Identification of practical problems of breeding and their solutions.

Compulsory reference materials

No.	Authors of publication, title, publishing house, year of publication.
1.	Singh P.K., Dasgupta S.K., S.K. Tripathi. Hybrid Vegetable Development. Food Products Press.2004, 441 p.
2.	Hayward M.D., Bosemark M.O., Ramogosa I. Plant breeding principles and prospects. Champan Hall-London-Weinheim-Mew York-Tokyo-Melbourne-Madras. 1993.-550.
3.	Rančelis V. Genetika V.2000.-662
4.	*4.* Moore J.N. Janic J. Methods in fruit breeding.- West Lafayete (Indiana) Purdue University
5.	Press, 1983.-419p P.Lower. Seeds. The Definitive Guide to Growing, History, and Lore. Timber Press.
6.	Portland. Cambrige. 2005. 229 p.
7.	N.O. Andersen. Flower Breeding and Genetics. Issues, Challenges and Opportunities for the 21st Century. Springer.2005. 822 p. G.Acquaah. Principles of Plant Genetics and Breeding. Blackwell Publishing. 2007. 569 p.

Supplementary reference materials

No.	Authors of publication, title, publishing house, year of publication.
1.	Nguyen H.T., Blum A. Physiology and biotechnology integration for plant breeding. Marsel
2.	Dekker Inc.2004, 626 p.
3.	Bowling B.L. The Berry grower's companion. Timber Press. 2000. 280 p.
4.	Балашова Н.Н. Селекция и семеноводство овощных и бобовых культур. Кишинев-1989.-279 с.
5.	Journal of Plant Breeding and Genetics. eSci Journals Publishing
6.	Theoretical and Applied Genetics. Springer
7.	Euphytica. Springer
8.	Acta Horticulturae. ISHS Žemdirbystė-Agriculture

Course programme designed by

No.	Name, surname	Institution	Degree	E-mail address
1.	Vidmantas Stanys,		prof. habil. dr.	v.stanys@lsdi.lt
2.				