

SYLLABUS

1. Course title:

POSTHARVEST TECHNOLOGY

2. Code:

3. Cycle of study:

4. ECTS credits:

5. Type of course:

 Mandatory Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

9. Weekly contact hours:

9.1. Lectures:

9.2. Seminars:

9.3. Laboratory/Practice classes:

10. Faculty:

Faculty of Technology

11. Department/study program:

Agronomy

12. Lecturer:

13. Lecturer's e-mail:

14. Web site:

www.tf.untz.ba

15. Course aims:

Postharvest technology includes finishing and storing techniques for agricultural products. Specific program units are technological processes for preserving the product by drying, types of dryers. Introduction to the methods of storage of processed products, physiological and chemical processes during storage, and types of warehouses and silos.

16. Learning outcomes:

Students will be able to:

- Understand the properties of water, air and grain for drying and storage,
- Define the physico-chemical properties of agricultural and other major crops during processing and storage,
- Identify equipment for drying and storage,
- Select and apply the right technology for different finishing of agricultural products,
- Solve problems during storage

17. Course content:

Moisture properties of air used in drying, changing the condition of cold air. Physical chemical properties of grain, grain size, bulk grain size, laboratory analysis and sampling of raw materials. Hygroscopic properties of grain, bound water in the grain, partial pressure in grain. Technological methods of preserving material by drying. The basics and methods of drying the material. Types of dryers and their divisions, mass and energy balances, protection of the environment. Processes of finishing of agricultural products. Extrusion, toasting, blending, expanding. Warehouses and storage methods, storage facilities and silos, losses during storage. Processes during storage. Physico-chemical changes during storage with special emphasis on self-heating and its prevention. Equipment and machinery for transport in silos and warehouses.

18. Learning methods:

1. Lectures with the use of multimedia resources
2. Laboratory exercises
3. Seminars
4. Consultations

19. Assessment methods:

For continuous activity and attendance throughout the semester the student can achieve 0 to 5 points. Also, for continuous exercises, the student can earn up to 5 points. Students take two partial tests: the first half of the semester, which includes previously practiced material and the second at the end of the semester with the material that is left after the first partial test. The individual test consists of 15 questions, and each correct answer is scored with 1 point. The student can achieve up to 15 points on each individual test. As part of the pre-requisites, students are required to prepare individual or group seminar work that will cover a specific topic from the content of the subject. The seminar paper is submitted to the subject teacher in writing and reviewed and then presented orally. All group students whose participation is valued individually participate in the creation and presentation of group seminar work. For the seminar work, the student can achieve 0 to 10 points. The right to go to the final exam are students who have achieved at least 28 points on pre-requisites. The final exam is oral. The maximum number of points a student can achieve on the final exam is 50. To have a student placed the subject must achieve a minimum of 54 cumulative points.

20. Assessment components:

The exam score is based on the total number of points (max 100 points) according to the following scale:

Lectures: max 5 points

Exercises: max 5 points

Seminar work: max 10 points

Test I: min 8 - max 15 points

Test II: min 8 - max 15 points

Final exam: min. 26 - max. 50 points

21. Required reading list:

Ritz, J. (1997.): Uskladištavanje ratarskih proizvoda, knjiga, PBI d.o.o., Zagreb

Ujević, A. (1988.): Tehnologija dorade i čuvanje sjemena, Fakultet poljoprivrednih znanosti i Bc institut, Zagreb

22. Web sources:

<http://postharvest.ucdavis.edu/>

23. Applicable starting from the academic year:

2016/2017

24. Adopted in the Faculty/Academy session: