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| Course: | POSTHARVEST PROCESSES |
| Course id: |
| Number of ECTS: 6 |
| Teacher: | Ivan Pavkov, PhD, Assistant professor |
| Course status | Elective |
| Number of active teaching classes (weekly) |
| Lectures: 2 | Practical classes: 2 | Other teaching types -: | Study research work:- | Other classes:- |
| Precondition courses | None/navesti ako ima |
| 1. Educational goal

Introduction students with basics technical and technological solutions for drying, processing and storaging: fruit, vegetables aromatic and medical herbs. There is estimation that on-third or more of fresh fruits and vegetables production worldwide is lost in different steeps from harvesting to consumption sites. It is desirable that those losses need to be reduced. The main objective of this subject is to spread a knowledge about maintains the quality of fruits and vegetables longer then usually from harvesting to domestic refrigerator and to provide safety and quality commodities. |
| 1. Educational outcomes

On successful completion of this subject, the students should: a) have acquired understanding of minimizing postharvest losses of fruit and vegetable that has already been produces,b) to assemble mastery of the knowledge, techniques, skills and tools related to drying and primary processing fruits, vegetables, aromatic and medical herbs. c) be able to identify, analyze and solve drying and processing facilities problems, d) the knowledge gather in this subject will provoke creativity in design and management of fruits and vegetables handling system. |
| 1. Course content

Lectures:Harvesting and primary fruit and vegetable commodities cooling, Storage systems (temperature and humidity of the air, storage facilities, small scale refrigerated storage, room cooling, forced-air cooling, hydro cooling, vacuum cooling), 3. Refrigeration system (mechanical and alternative refrigeration sources), Modified atmosphere in storing and transport, Packages for fruit and vegetables, Postharvest handling systems (stone fruits, pome fruits, small fruits, vegetables, aromatic and medical herbs). Storage of dried products. Lifetime of product. Machines and materials for package the dried material.Practice:Measuring of physical properties for fruit, vegetable, aromatic and medical herbs. Calculation in diagram humid air, material bilans of moisture and energy for air during drying processes. Preparation fruit and vegetable for drying - laboratory practice, convective drying - laboratory practice, osmotic drying - laboratory practice. Planning of storage for drying fruit and vegetables. Sorting and packaging. Business plan with basic ideas for drying facilities. Study visits in centers for fruit, vegetables, aromatic and medical herbs processing.  |
| 1. Teaching methods

 Lectures – oral presentations with power point softer, Practical classes- calculations and practical work in laboratory, Consultations and Term paper |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam  | Mandatory | Points |
| Lecture attendance | Yes | 5 | *Oral part of the exam* | Yes | 10 |
| Test | Yes | 70 |  |
| Exercise attendance | Yes | 5 |
| Term paper | Yes | 10 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Kader, A. A. | Postharvest Technology of Horticultural Crops | University of California, Agricultural and Natural resources, Publication 3311 | 2002 |
|  | Gledon R. | Postharvest Technology - Scripts | Iowa State University, College of Agriculture | 2006 |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationUNDERGRADUATE ACADEMIC STUDIES ORGANIC AGRICULTURE  |
| Table 5.2 Course specification |