Syllabus

tecnology of citrus fruits and their products - 71455

Last update 07-10-2015

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: biochemistry & food sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Rehovot

Course/Module Coordinator: Samir Droby

Coordinator Email: samird@volcani.agri.gov.il

Coordinator Office Hours: thursday and tuesday 09:00-11:00

Teaching Staff:
Prof Samir Droby
Course/Module description:
Citrus fruit is the largest and the most important fruit crop in the world with more than 100 million tons of production per annum and 10 million tons of international trade. The course will address the technologies related to preservation of quality of fresh fruit as well as products derived from the fruit.

Course/Module aims:
The course will give the students information about the theoretical and practical aspects in different subjects including physiology and biochemistry of ripening processes, pathogens and ways to prevent them, juice industry, production of natural products from citrus fruit and their use in functional food and pharmacological industries and aspects in international trade of citrus fruit.

Learning outcomes - On successful completion of this module, students should be able to:
1. To identify postharvest problems related to quality and preservation of citrus fruit.
2. To evaluate different processes for treating and handling citrus fruit after harvest.
3. To identify postharvest pathological and physiological problems citrus fruit.
4. To demonstrate the industrial potential of citrus fruit and its products.
5. To study basic processes involved in the physiology, pathology and technology of the citrus fruit after harvest.

Attendance requirements(%):
80

Teaching arrangement and method of instruction: Lecture, personal project and excursion

Course/Module Content:
1. The physiology and biochemistry of ripening processes and quality parameters.
2. Postharvest treatments, preservation, storage and transport of the fruit.
3. Physiological disorders in the fruit, and biochemical and physiological mechanisms involved.
4. Causal agents for decay and ways to prevent them.
5. Pathogenicity mechanisms and natural resistance.
6. Anaerobic respiration, fermentation and development of off flavors in the fruit.
7. Peeled fruit, Semi-processed fruit and packaging technologies.
8. Production of essential oils, fibers and other biologically active materials and their use in the food industry.  
9. Use of citrus fruit products in the cosmetic and pharmacological industries.  
10. Juice industry in Israel and the world.  
11. International trade of citrus fruit  
12. Excursion to citrus pack houses or juice plants.

**Required Reading:**


**Additional Reading Material:**

1) Citrus Fruits and Their Products: Analysis-Technology (Food Science and Technology) by S. V. Ting (Author), Russell L. Rouseff (Author). Marcel Dekker Inc (May 1986)


**Course/Module evaluation:**

End of year written/oral examination 70 %  
Presentation 0 %  
Participation in Tutorials 0 %  
Project work 30 %  
Assignments 0 %  
Reports 0 %  
Research project 0 %  
Quizzes 0 %  
Other 0 %
Additional information:
none