



# *The Hebrew University of Jerusalem*

## *Syllabus*

### ***NEW HORIZONS IN FOOD AND NUTRITION RESEARCH - 71479***

*Last update 21-01-2024*

*HU Credits:* 2

*Degree/Cycle:* 1st degree (Bachelor)

*Responsible Department:* Biochemistry & Food Sciences

*Academic year:* 0

*Semester:* 1st Semester

*Teaching Languages:* English

*Campus:* Rehovot

*Course/Module Coordinator:* Prof. Zvi Hayouka

*Coordinator Email:* [anna.aronis@gmail.com](mailto:anna.aronis@gmail.com)

*Coordinator Office Hours:* Sundays 15:00-16:00

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Teaching Staff:

Prof Zvi Hayouka

Course/Module description:

The goal of the course is to present to the students some of the current advances and challenges in Food Science and Nutrition. Each lecturer will present contemporary research methods and results from his/her lab. The topics include: 1. How to get the most of this course 2. Taste in health and disease

Novel chemical tools to improve food safety

Using fermentation to Improve the Sensorial Profile of Meat Replacements

Cannabinoids for the treatment of obesity and associated comorbidities

Autophagy as a link between nutrition and disease

The Regulation of Hepatic Glucose Production and Its Relevance to Type 2 Diabetes

"Nutrient sensing by mTOR pathway in beta cell physiology

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Cholesterol and bile acids in fatty liver disease

Ice and the ways organisms cope with freezing conditions

Gene regulation during fasting

How to study diet's effects in animal models?

How can microbes evolve in the lab to cure disease

Elevation of virulence in foodborne pathogenic bacteria

Having our cake and eating it: will future food be sustainable, affordable, and nutritious?

Course/Module aims:

To familiarize the student with the research topics of the scientists in the field of nutrition, food science and biochemistry, present current scientific questions and challenges.

Learning outcomes - On successful completion of this module, students should be able to:

Familiarize with various Professors and their research subjects.

Help the students decide whether they want to join a research lab or join the industry

Attendance requirements(%):

100

Teaching arrangement and method of instruction: Lectures

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Course/Module Content:

- Changing what people eat: from local to global.
  - Eating patterns and perceptions in young adults with ADHD.
  - Novelty and technology in bariatric surgeries.
  - Patent law: when, how, why?
  - Food enrichment - a perspective for food system.
  - If you don't eat, you don't grow up - the effect of nutrition on skeletal development.
  - Starvation responses in microorganisms, animals, and humans
- And other issues of research and development according to the syllabus in moodle

Required Reading:

The students are expected to look at the PI website and publications list before the lecture.

Additional Reading Material:

As advised by course lecturers

Grading Scheme:

Attendance / Participation in Field Excursion 100 %

Additional information:

The course is given in English