האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

HUMAN NUTRITION - 65214

Last update 06-01-2015

HU Credits: *4*

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

Responsible Department: *nutrition sciences*

Academic year: *2*

Semester: *2nd Semester*

Teaching Languages: *Hebrew*

Campus: *Rehovot*

Course/Module Coordinator: *Oren Tirosh*

Coordinator Email: *oren.tirosh@mail.huji.ac.il*

Coordinator Office Hours: *Thursday 14:30-15:30*

Teaching Staff:

Prof
Ms. Janna Zaretsky
Ms. Elina Manusevich
Ms.
Ms. Nur Abuahmad

Course/Module description:
Food consumption - proteins: biological value; protein requirements; Protein balance; digestion and absorption; essential and non-essential amino acids; of amino acids and peptide absorption; carbohydrates; digestion and absorption; metabolism of glucose in the liver; Insulin and Galikgon adiponectin; glycemic index; fiber dietary; fats - types of fats in food; digestion and absorption of fats; metabolism of cholesterol and lipoproteins; Antioxidants; energy - Needs; Measurement units; metabolic weight; measures Antrofometric; measuring energy, RMR, DIT DIT metabolism, obesity and morbid obesity.

Course/Module aims:
to provide the student with the knowledge, understanding and limited manner the clinical application of basic concepts in human nutrition.

Learning outcomes - On successful completion of this module, students should be able to:
Recognize processes in the biochemistry and physiology of human nutrition.
Read professional material sciences (nutrition science articles)

Attendance requirements(%):
100

Teaching arrangement and method of instruction: Frontal lectures

Course/Module Content:
Lesson 1-2 - Concepts of carbohydrates, chemical composition, metabolic effects . Complex and simple carbohydrates affect blood glucose levels .
Lesson 3-4 regulation of carbohydrates, insulin, and metabolic regulation of carbohydrate by insulin, insulin signals . Transmission of information by insulin. Regulation of blood glucose levels by insulin and glucagon .
Lesson 5-6 lipids, differences in the composition of lipids , fatty acids, sources , absorption and digestion process .
Transport of lipids, lipoprotein fractions . Removal of cholesterol from the blood physiological effects and its metabolism pathways in the body .

2 hours of exercise - can students make, exercise discusses issues presented in lectures .
Lesson 7-9 - disturbances in the metabolism of carbohydrates and fats in situations of metabolic syndrome and obesity.
Obesity and its causes , diabetes , fatty liver , heart disease . The molecular basis .
Lesson 10 - free radicals, composition and structure , damage caused by free radicals.
Antioxidants , composition , structure, how and why their activities are used .
2 hours - an exercise in understanding abnormalities in the regulation of the metabolism of carbohydrates and fats.

Protein 24 hours
Lesson 1 - Introduction to general roles and their importance in the structure of proteins and protein body protein synthesis genetic code
Lesson 2 The importance of dietary protein and energy component as a component for building donor tissue .
Lesson 3 - amino acids in the diet importance and classification of different types . Reservoirs of amino acids distribution and the embroidery . Dispersion intracellular and extra cellular .
Lesson 4 - essential amino acids provided . Cysteine and Taorin essential amino acids provided and glutathione cycle . Arginine an essential amino acid tyrosine condition .
Lesson 5 - synthesis and breakdown of amino acids. Products containing non-protein nitrogen .
Lesson 6 - protein absorption from the gastrointestinal tract and its transport to the tissues .
2 hours of exercise - exercise articles and topics discussed in the lecture.
Lesson 7 - Flow of protein (creation and breakdown of proteins) . Effects of nutrition on protein turnover .
Lesson 8 - adaptation consumption and protein catabolism in situations of hunger and satiety . Metabolism of amino acids effort . Muscle at rest versus activity in muscle protein synthesis .
Lesson 9 - quality protein (not all proteins have the same nutritional quality) . Protein quality evaluation .
Lesson 10 - Methods for calculating and assessing the need for protein in the menu.

2 hours of exercise in understanding the protein quality and protein requirements .
Lecturer Dr. Yuval steel
Energy 8 hours
Lesson 1 - Introduction Lbioanrgtika .
Lesson 2 - energy pathways in the human body under physiological conditions change.

Required Reading:
Biochemical and physiological aspects of human nutrition / [edited by] Martha H. Stipanuk. W.B.Saunders, 2000.

Modern nutrition in health and disease editors, A. Catharine Ross... [et al.]. 10-11 ed. Part 1.

Selected articles.

Additional Reading Material:
Varies

Course/Module evaluation:
End of year written/oral examination 75 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 25 %
Other 0 %

Additional information:
none