האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Secrets of The Human Genome - 94323

Last update 04-08-2019

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Bio-Medical Sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Mt. Scopus

Course/Module Coordinator: Prof. Ann Saada-Reisch

Coordinator Email: anns@ekmd.huji.ac.il

Coordinator Office Hours: Sun 14-16

Teaching Staff:

Dr. Avraham Shaag
Prof Ann Saada Reisch

Course/Module description:

The understanding of human health and disease is being revised, as the secrets of the human genome are being unveiled. With the full DNA blueprint of a human individual, a new era in medicine is presented as many human conditions and diseases can now be explained by molecular genetics. The, extended knowledge is accompanied by ethical issued and concerns with respect to the use of genetic information. Nevertheless, with its advantages and disadvantages, the era of the genetic revolution has arrived.
The curriculum includes learning the basics of human genetics, the structure and expression of genes while introducing some analytical methods. The molecular basis of (some) inherited diseases will be discussed more in detail including gene manipulation. Some ethical issues will be discussed. This introductory course is intended for students with no prior acquaintance with the subject- some difficulties during the first lessons may still occur.

Course/Module aims:

Basic understanding of modern human genetics in normal and diseased states.

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

Basic understanding of modern human genetics in normal and diseased states.

Attendance requirements(%):

100%

Teaching arrangement and method of instruction: frontal lectures, one in-class-exercise and 4 quizzes

Course/Module Content:

structure of cells chromosomes and DNA
The central dogma
Gene expression
A molecular view of Mendel's laws and human inheritance
the basis of human genetic disorders
Molecular methods
CSI,

genetic diagnosis-prenatal-postnatal,
gene therapy
genetic engineering and gene editing

Required Reading:
Course slides

Molecular biology of the cell

Additional Reading Material:
Genetics in medicine

Human Molecular Genetics

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 70 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 30 %
Other 0 %

Additional information:
participation in 3 of 4 quizzes is compulsory
before handing in the final assignment- "home examination"
minimal grade for course passing 60