

The Hebrew University of Jerusalem

Syllabus

Introduction to Biotechnology - 72616

Last update 27-10-2019

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Life Sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof Joseph Hirschberg

Coordinator Email: hirschu@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Prof Shimshon Belkin
Prof Joseph Hirschberg
Dr. Gil Ben-Menachem

Course/Module description:

The course is intended to give students basic knowledge in biotechnology and demonstrate principles and processes used to apply biological inventions to biotechnology

Course/Module aims:

1. Teach basic concepts in biotechnology
2. Demonstrate principles and practice of biotechnological applications
3. Description and analysis of industrial examples of biotechnology
4. Teach commercial aspects in biotechnology such as patents and commercialization

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

1. Describe and explain basic concepts in biotechnology.
2. Analyze principles and practice of biotechnological applications
3. |Describe and analyze industrial examples of biotechnology.

Knowledge gained in this course will enable or assist students who are interested in Biotechnology to develop their career in this direction

Attendance requirements(%):

30 (last 4 specific classes)

Teaching arrangement and method of instruction: Lecture

Course/Module Content:

Environmental Biotechnology: basic concepts; origin of pollution and treatment; bioremediation; biosensors for monitoring pollution.

Drug development: Basic concepts, Malaria as an example; natural sources of new drugs

Plant biotechnology: Genetic engineering of plants- techniques and examples of applications, biofuel, sociological aspects in GM Plants.

IP and patents in biotechnology

Commercialization and funding: from biological discovery to products.

Guest lectures from industry people

Required Reading:

Selected papers

Additional Reading Material:

selected papers

Course/Module evaluation:

End of year written/oral examination 100 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 0 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information:

You must attend 4 specific lectures as will be indicated in class.